The Relationship of the Process of Reading in EGP with the Process of Reading in ESP and the Product of Reading in EGP and ESP
(Hubungan antara Proses Membaca dalam EGP dengan Proses Membaca dalam ESP dan Hasilan Membaca dalam EGP dan ESP)

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ABSTRACT

This study using ex post facto design had two purposes. First, it attempted to find out if there was any relationship between the process of reading in EGP (English for General Purposes) and ESP (English for Specific Purposes). Second, it intended to investigate if the EGP reading process would correlates with the EGP and ESP reading product. Thirty nine Iranian tertiary level students received reading comprehension tests as well as reading strategy questionnaires in EGP and ESP. Based on the mean score of the EGP reading strategy questionnaire the participants were classified into two groups of low and high awareness and use of reading strategies. Analysis of data using one-way ANOVA and multivariate analysis of variance evinced the high group had more awareness and use of strategies in ESP and outperformed the low group in ESP reading comprehension test. However, no significant difference was found in EGP reading comprehension test between the two groups. It was concluded that awareness and use of strategies in EGP coupled with content knowledge would be a good predictor of a successful academic reading performance. EGP teachers would be able to improve the strategic reading competence of students to be transferred to ESP reading tasks. ESP practitioners would be able to do needs analysis for content reading courses so that possible deficiencies in strategic competence would not result in inefficiency in ESP reading.

Keywords: Strategic reading; EGP; ESP; awareness and use of strategies

INTRODUCTION

Reading is a complex process which includes a combination of perceptual, psycholinguistic and cognitive abilities (National Institute of Child Health and Human Development [NICHD] 2000). Models of reading were introduced characterizing reading as data-driven or bottom-up, concept-driven, or top-down, and the interactive model. In the interactive model of reading, reading instruction involves skills instruction and instruction of comprehension strategies. (Weaver 1994) In order to read a text, an effective reader employs a range of strategies based on the purpose for which he/she is reading. Reading strategies are “ways of getting around difficulties encountered while
reading” (Urquhardt & Weir 1998: 95). They are specific, deliberate, goal-directed mental processes or behaviors, which control and modify the reader’s efforts to decode a text, understand words and construct the meaning of a text (Afflerbach et al. 2008). Strategic awareness and monitoring of the comprehension process are critically important aspects of skilled reading. (Sheorey & Mokhtari 2001) Many investigators agree that strategy awareness is a necessary feature of strategy use (Cohen 1995; O’Malley & Chamot 1990; Oxford 1990). According to Sheorey and Mokhtari (2001), what distinguishes the skilled from the unskilled readers is the combination of conscious awareness of the strategic reading processes and the actual use of reading strategies.

Studies of reading generally take a process (strategic reading behavior) and/or product (reading score) view of reading. Product oriented studies use reading comprehension tests as criteria for data collection while process oriented studies employ questionnaires, interviews or think-aloud techniques to this purpose. Studies taking these two views into consideration usually use correlation analysis as the method of data analysis. There is a higher correlation coefficient for process-oriented studies (Yamashita 1999) than product oriented studies. (Yamashita 1999; Lee & Schallert 1997) Talebi (2014) investigated the effect of reading product in L1 on EGP and ESP reading product and process and found no significant relationship between the reading product in L1 (Persian) and reading process in EGP and ESP as well as the reading product in ESP. But in EGP reading product there was a significant difference in the reading product for high and low groups of L1 reading ability.

Content-based instruction of reading is one of the most effective approaches of ESL instruction where language instruction is integrated with the content areas. In content-based courses, reading involves not only understanding content, but also processing strategies in order to understand content. In order to help readers with or without reading difficulties, it is very important to understand what specific problems they encounter during their reading process (Lau 2006). The reading skill is considered as the core of the syllabus in EFL contexts. ESP builds on EGP research and a solid understanding of basic EGP should precede higher-level instruction in ESP if ESP programs are to yield satisfactory results (Hutchinson & Waters 1987).

Chien et al. (2008) raised a question about the roles that EGP and ESP teachers have in the teaching practice. To them the role of EGP teachers is to build up the foundation of general English skills which include several types of training in language sub-skills, such as skimming, scanning, and making predictions through use of different genres of readings. The ESP teachers’ role is to activate the learners’ science background knowledge in English, by introducing the methods in the scientific essays of classifying, comparing, identifying cause and effect, hypothesizing, defining, exemplifying, giving evidence, experimenting, calculating, reporting, describing and predicting.

Ahmadi (2003) conducted a study to determine if ESP reading performance can be predicted by EGP reading in university entrance exams for up-to 20 different disciplines in Iran in order to get admission to PhD. courses. He found a positive correlation coefficient between the scores of candidates in the ESP and EGP tests. He concluded that EGP tests seem to be a good predictor for ESP competency. Ajideh (2011) investigated the relationship between EGP and ESP tests in the medical fields of study in Iranian context. Contrary to Ahmadi’s findings he found no systematic relationship between the students’ scores on EGP and ESP tests and that it was not safe to claim that students who obtained higher scores in EGP test would receive higher scores in ESP test or vice versa.

However, no study has ever investigated if degree of awareness and use of reading strategies in EGP would correlate with awareness and use of reading strategies in ESP as well as reading performance in EGP and ESP. At university level in Iran in ESP courses it is taken for granted that students have a good command of the reading skill in EGP. However, EGP courses may not meet the demands of ESP reading tasks as the genre and content load of the text is different when students move from EGP to ESP courses. The purpose of this study is to investigate to what extent the process of reading in EGP correlate with the product of reading in EGP as well as the process and product of reading in ESP. Therefore, the following questions are formulated:

1. Do students of high and low level of awareness and use of reading strategies in EGP differ in reading strategy awareness and use in ESP?
2. Do students of high and low level of awareness and use of reading strategies in EGP differ in reading ability in EGP and ESP?

METHOD

PARTICIPANTS

Thirty nine tertiary level students participated in this study. They were in first or second educational year at University of Mazandaran, majoring in mathematics, accounting and computer Engineering. However, they all had an educational background in Math-Physics at high school level. Before getting admission to University of Mazandaran they had already passed science courses (taught in Persian) as well as general English courses (the cut score for them was 10 out of 20) at high school.

INSTRUMENTATION

In order to collect data the following instruments were employed.
In this study, the strategic approach was measured by means of a five-point Likert scale reading strategy questionnaire (Never/Seldom/ Sometimes/ Usually/ and Always true of me) offering an immediate retrospective picture of the reading behavior. The instrument was in participants’ L1 (Persian) so that they felt more comfortable with the questionnaire while answering. The participants were informed of the purpose of the study and that there were no right or wrong answer for the items of the instrument. All the items of the questionnaire were adopted from some related questionnaires in research-validated studies (Oxford et al. 2004; Sheorey & Mokhtari 2001; Taillefer & Pugh 1998). The questionnaire items would elicit the following information from the respondents:

1. Pre-reading Activities: previewing the text before reading; using prior knowledge; skimming each paragraph for the main idea(s); adjusting reading rate; determining what to read; reading the topic or heading of the passage; looking at the pictures, graphs, maps, diagrams, etc., of the passage; thinking about the reasons for reading; reading the questions before reading the passage.

2. While-reading activities: paying attention to the parts of sentences such as phrases and clauses; paying attention to the sentence structure, such as subjects and objects; knowing what each pronoun refers to; linking information in one sentence with information from the preceding ones; paying attention to the beginning and end of each paragraph; continuing reading even facing difficulty in reading; guessing the meaning of unknown words or phrases using context clues; re-reading for better understanding; reading aloud when text becomes hard; guessing the meaning of unknown words; taking notes, highlighting or underlining the important notes while reading; scanning the text for details; checking or evaluating comprehension; predicting or guessing text meaning; confirming predictions; interpreting the text (make inferences, draw conclusions, etc.); visualizing information read; doing monitoring and clarifying; trying to understand text organization by questioning for clarification.

3. Post-reading activities: making inferences after finishing reading the passage; evaluating what is read.

The internal consistency reliability coefficient of the instrument at the piloting stage was calculated to be 0.83 as it was piloted against 15 students taking part in the study. To make sure of the content validity of the questionnaire, the instrument was finally shown to two experts in the field for getting their opinion about the questionnaire items. They were also asked to give opinions on the clarity of the translation. Cognitive strategies are about knowing what strategies to use and how to use them; on the other hand, metacognitive strategies are about understanding the rationale for applying a particular strategy in a particular context, and evaluating its usefulness in terms of appropriacy and effectiveness for that context. There were two reasons why students were tested about their knowledge of cognitive and metacognitive strategies (Fogarty 1994).

1. First, through cognition, good readers would construct their knowledge and through metacognition they would identify when they could no longer understand and what they could do about it. Therefore, constructing understanding would require both cognitive and metacognitive elements.

2. Second, metacognitive strategies help students to successfully use and transfer these strategies cross-linguistically, and cross-curriculally (from one area of knowledge to another, in this study from EGP to ESP) as transfer would be the ultimate goal of strategy instruction. Strategic reading can only become efficient when metacognitive strategies are actively used (Auerbach and Paxton 1997).

### READING TESTS

In order to assess students’ performance in EGP and ESP two reading comprehension test batteries were employed. The nature of the items in terms of recognizing main ideas, vocabulary knowledge, and inferencing was the same for all the passages, for the two tests.

**Test of Reading Comprehension in EGP** From the reading section of books two and three of New Interchange series (Richards 1997) five passages were selected to develop the test of reading comprehension in English. The number of words in the selected five passages ranged from 257 to 295 words. For each passage six items were developed and in all for all the five passages there were thirty items. The nature of the items in terms of recognizing main ideas, vocabulary knowledge, and inferencing was the same for all of the passages. The reliability of the test of reading in English was also taken care of at the piloting stage using the K-R21 formula which turned out to be .76. The time allowed was 30 minutes as determined at the piloting stage.

**Test of Reading Comprehension in ESP** The ESP reading comprehension in English contained two passages. The first passage titled ‘What is information processing?’ was adopted from the reading section of ‘English for Students of Computer’, by Haghani (2001) and the second passage titled ‘The Need for Accounting’ from ‘English for the Students of Accounting’ by Aghvami (1996). Ten items were developed for each passage. The two passages were nearly of the same length. The number of words in the selected two passages ranged from 560 to 610 words. The reliability of the test calculated according to the K-R21 formula turned out to be 0.79. The time allowed was 30 minutes as determined at the piloting stage.
PROCEDURE

After informing the participants of the purpose of the study, the reading strategy questionnaire as well as the tests of reading comprehension in EGP and ESP were administered to students during the regular class time. Instructions were given to the participants on how to answer the questionnaire items and reading test batteries. They were asked to take the reading test in EGP and immediately after that they were administered the strategy questionnaire as a retrospective measure determining what strategies they used while reading in EGP. Time limitation was set for the reading test but not for the reading strategy questionnaire.

As students had to cover their own course books and as there were some exams for other courses throughout the week possibly making the data collected unreliable, there was a time interval of two weeks after which the subjects took the second reading test which was the ESP reading test followed by the strategy questionnaire showing what reading strategies students would use while reading in ESP. As was mentioned there was no time limit on answering the questionnaire and the researcher would answer any possible questions raised by the participants seeking more clarity for items so that the data were liable for the analysis purposes. The questionnaire was delivered in Persian as it was thought that they could more easily reflect their strategic behavior in their mother tongue.

RESULTS AND DISCUSSIONS

Since the researchers had no control over what had already happened to the participants and gave them no treatments, the study fell within the domain of ex post facto design. The study employed descriptive statistics (mean and standard deviation) and inferential statistics (one-way ANOVA and Multivariate Analysis of variance) to analyze the collected data. What follows gives an account of how the data were analyzed. First, descriptive statistics of the study is provided, and then, the two research questions are reintroduced followed by data analysis for each.

As is presented in Table 1, based on the questionnaire administered to subjects, two groups were identified, namely high and low groups based on their awareness and use of reading strategies in EGP. Those whose scores were below the mean score were regarded as the low group and those whose scores were above the mean score as the high group.

A one-way ANOVA was used to test for preference differences among the two (high or low) groups of EGP reading strategies on ESP reading strategy use. The results indicate that there was a significant effect of EGP reading strategy awareness and use on ESP reading strategy awareness and use at an alpha of .05 level for two conditions $F(1, 37) = 17.039$, $p = .001$ (Table 2).

The study of the mean scores revealed that the high group of EGP reported more awareness and use of ESP reading strategies than the low EGP group (Table 3).

Multivariate analysis of variance (Wilks’ Lambda) for unrelated measures revealed a significant main effect of the EGP reading strategies at an alpha of .05, Wilks’ Lambda = 0.83, $F (2, 36) = 3.68$, $p = .035$. This meant that the high EGP reading strategy group showed a high EGP and ESP reading ability in contrast to the low EGP reading strategy group. A measure of effect size, $\eta^2 = .17$, indicated a relatively moderate effect (See Table 4).

To find out which of the variables differed, test of between-subject effects were used. This test indicated that only for the ESP reading ability there were significant

| TABLE 1. Descriptive statistics (mean and standard deviation of research variable) |
|----------------|--------|-------|------|
| Index          | M      | SD    | N    |
| EGPQ High      | 193.00 | 16.31 | 17   |
| Low            | 153.91 | 14.95 | 22   |
| Total          | 170.95 | 24.92 | 39   |

1. Do students of high and low level of awareness and use of reading strategies in EGP differ in reading strategy awareness and use in ESP?
difference in EGP reading strategies groups (high or low) and EGP reading ability had no significant relationship with EGP reading strategy awareness and use (Table 5).

**TABLE 5.** Between subject test of EGP reading strategy groups (high or low) on EGP and ESP reading ability

<table>
<thead>
<tr>
<th>Source</th>
<th>Dependent variable</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F-ratio</th>
<th>Sig</th>
<th>Eta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>EGP</td>
<td>1</td>
<td>13.213</td>
<td>13.213</td>
<td>1.100</td>
<td>0.301</td>
<td>0.029</td>
</tr>
<tr>
<td></td>
<td>ESP</td>
<td>1</td>
<td>64.773</td>
<td>64.773</td>
<td>7.533</td>
<td>0.009</td>
<td>0.16</td>
</tr>
<tr>
<td>Error</td>
<td>EGP</td>
<td>37</td>
<td>444.377</td>
<td>12.010</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ESP</td>
<td>37</td>
<td>318.150</td>
<td>8.599</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>EGP</td>
<td>39</td>
<td>4438.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ESP</td>
<td>39</td>
<td>2737.00</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

With respect to mean differences, the ESP reading ability was more in the high group than in the low group of EGP reading strategies awareness and use (Table 6).

**TABLE 6.** Mean and standard deviation of EGP reading ability and ESP reading ability with respect to EGP reading strategy use groups

<table>
<thead>
<tr>
<th>Source</th>
<th>Dependent V</th>
<th>Index</th>
<th>M</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>EGP Q</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>EGPR</td>
<td>High</td>
<td>10.76</td>
<td>3.36</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td></td>
<td>9.59</td>
<td>3.54</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>ESPR</td>
<td>High</td>
<td>9.23</td>
<td>3.40</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td></td>
<td>6.63</td>
<td>2.51</td>
<td>22</td>
</tr>
</tbody>
</table>

**CONCLUSION AND IMPLICATION**

Data analysis evinced those students who reported more awareness and use of reading strategies in EGP (i.e., the high group) had more awareness and use of reading strategies in ESP. Strategic awareness is a critically important aspect of skilled reading. What distinguishes the skilled from the unskilled readers is the combination of conscious awareness of the strategic reading processes and the actual use of reading strategies. (Sheory & Mokhtari 2001) Studies also show that unsuccessful students lack this strategic awareness and monitoring of the comprehension process (Garcia et al. 1998). These less successful students must be helped to acquire and use the reading strategies that have been found to be successful (Mokhtari & Reichard 2004).

This study also evinced the high group outperformed the low group in the ESP reading comprehension test. One reason for this might be that awareness and use of reading strategies in EGP is a good predictor of a successful academic reading performance in ESP texts. However, no significant difference was found in EGP reading comprehension test between the two groups. Studies in the literature evince there is a higher correlation coefficient for process-oriented studies (Yamashita 1999) than for product oriented studies (Yamashita 1999; Lee & Schallert 1997). From the findings of the present study, it is also found that the interdependence of reading ability in EGP and ESP seems to be revealed more in the process than in the product of reading.

However, it is known that the cognitive processing of information is slower in a foreign language and it hinders immediate retention of information. This fact is described by Cook (2007): “L2 learners have ‘cognitive deficits’ with reading that are not caused by lack of language ability but by difficulties with processing information in L2”. In fact, it should not be assumed that, since the awareness and use of reading strategies among university students is high, they will make good reader. In fact, awareness and use of strategies does not guarantee efficient reading, as there are many reading variables making reading strategies effective or ineffective, including cultural background knowledge, formal background knowledge, content background knowledge, motivation, purpose of reading, task difficulty, attitude toward leaning English, attitude toward reading, L1 reading ability, etc. In this study, high or low level of awareness and use of strategies in EGP did not correlate with reading success in EGP. However, it did correlate in ESP reading performance, probably because content familiarity in academic specialized texts is a determining factor toward this correlation giving the students a good perception about reading and comprehending these materials.

Since ESP courses are usually offered after EGP courses, it is recommended that strategic reading be improved in EGP so that it transfers to ESP context. Therefore, rather than focusing students’ attention only on learning the language itself, language teachers can help students learn to think about the language learning process (Anderson 2002).

Given the interconnectedness of the process of reading in EGP and ESP, in order to be effective readers, ELT learners should be instructed reading strategies and become familiar with a variety of texts of different academic and non-academic genres. Findings of this study provide insights to material developers of language programs as well. Strategic reading should be on top of the list of priorities in ELT syllabus so that students transfer it from EGP to ESP when studying for university courses. As claimed by Ajideh (2009) the ideals of ESP teaching will be actualized if the product and the process of learning are considered together and to this purpose learning strategies should play an important role.

However, as it is the nature of most classroom research studies not to be able to carry out an in-depth investigation, it is suggested for further research to study which strategy items contribute more to the high correlation between the process of reading in EGP and ESP. This attempt can be a quantitative one but in order to find more about the reasons of the possible high correlations between certain strategies in EGP and ESP a quantitative study is suggested to be conducted.
REFERENCES

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